

GILA RIVER BASIN

0947100 SAN PEDRO RIVER AT CHARLESTON, AZ

LOCATION--Lat 31°37'33", long 110°10'26", in NE_{1/4}NE_{1/4} sec. 11, T.21 S., R.21 E., Cochise County, Hydrologic Unit 15050202, in Spanish land grant of San Juan de las Boquillas y Nogales, at downstream side of pier near center of highway bridge, 0.3 mi south of Charleston, 1.5 mi upstream from Charleston damsite, and 9 mi upstream from Babocomari River.

DRAINAGE AREA--~1,234 mi², of which 696 mi² is in Mexico.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Jan. and Feb. 1904 (gage heights only); Mar. 1904 to Aug. 1906; Nov. 1910 to Dec. 1911 (gage heights only); Sept. 1912 to current year. Monthly discharge only Oct. 1926 to May 1928 and Dec. 1933 to Apr. 1935, published in WSP 1313. Published as "near Lewis Springs" 1910-11, and as "near Fairbank" 1911-26.

REVISED RECORDS--WSP 1119: 1939(M); WSP 1213: 1914, 1916(M), 1918(M), 1919, 1920(M), 1922-23(M); WDR AZ-90-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 3,954.01 ft above sea level. Prior to Dec. 1, 1942, nonrecording gage or water-stage recorder at various sites within 6.5 mi downstream at different datums.

REMARKS--Records fair, except for high-flow records and estimated daily discharges, which are poor. Diversions above station, mostly by pumping from ground water, for irrigation of 3,200 acres in 1978, excluding an unknown amount in Mexico. Record shows flow available at Charleston damsite.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, about 98,000 ft³/s Sept. 28, 1926, gage height, 21.9 ft, site and datum then in use, by slope-area measurement of peak flow; minimum daily discharge since 1928, 0.05 ft³/s June 14-16, 1994, gage height, 2.02 ft.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 3,000 ft³/s and (or) maximum (*):

	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
	Sept. 20.....	1800	*2,830	*7.07

Minimum daily discharge, 0.29 ft³/s, July 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.5	4.9	6.1	7.9	9.0	7.6	6.7	1.9	0.63	28	3.2
2	2.5	2.6	5.2	6.0	8.0	9.0	9.0	6.4	1.7	0.58	104	3.2
3	2.7	2.6	5.2	5.8	8.1	9.6	14	6.2	1.6	0.52	21	3.0
4	2.5	2.8	5.3	5.8	8.2	9.9	31	5.9	1.6	0.45	7.4	3.8
5	2.6	2.9	5.4	6.0	8.2	9.6	13	5.6	1.5	0.37	9.6	6.1
6	2.6	3.0	5.4	6.1	8.2	9.4	9.8	5.5	1.4	0.34	5.7	6.4
7	3.0	3.0	5.3	6.2	8.3	9.3	9.0	5.2	1.4	0.29	4.4	3.8
8	3.2	3.4	5.5	6.2	8.5	9.3	8.6	5.1	1.3	0.38	16	2.9
9	17	3.0	5.5	6.3	8.6	9.2	8.2	4.9	1.4	0.47	13	2.4
10	7.5	3.0	5.5	6.3	8.7	9.2	7.9	4.7	1.4	0.48	5.9	2.2
11	2.8	3.3	e5.5	6.4	8.7	62	7.9	4.5	1.4	0.80	4.1	2.1
12	2.8	3.6	5.7	6.4	8.8	11	7.7	4.2	1.4	0.55	4.2	2.0
13	2.8	4.0	5.7	6.7	8.8	8.8	7.5	4.0	1.4	0.53	4.1	2.0
14	2.6	4.0	5.7	6.9	8.7	8.7	7.4	3.8	1.3	1.0	246	2.0
15	2.5	4.1	5.6	7.3	8.7	8.6	7.2	3.7	1.2	1.3	25	2.0
16	2.5	4.3	5.5	7.1	8.6	8.4	6.8	3.4	1.2	300	165	2.0
17	2.4	4.6	5.5	6.9	8.7	8.3	6.6	3.1	1.2	114	158	2.1
18	2.4	4.7	5.5	7.0	8.7	8.3	6.7	3.0	1.1	28	135	16
19	2.5	4.8	5.5	7.2	8.8	8.2	6.5	2.9	1.1	9.7	361	156
20	2.3	4.7	5.5	7.2	9.2	8.1	6.6	2.8	1.0	46	43	1280
21	2.3	4.6	5.5	7.2	9.2	8.1	6.6	2.7	1.0	8.7	16	151
22	2.3	4.7	5.6	7.5	8.9	8.0	6.6	2.6	2.2	5.0	9.9	46
23	2.4	5.0	5.7	7.4	9.3	7.9	6.6	2.6	3.1	9.5	7.6	25
24	2.5	5.0	5.7	8.0	9.3	7.8	6.7	2.3	2.4	10	6.5	17
25	2.4	5.1	6.0	7.5	9.1	7.7	6.6	2.3	1.8	4.1	5.8	13
26	2.5	5.0	6.0	7.5	8.8	7.6	6.7	2.5	1.4	3.8	5.0	16
27	2.6	4.9	6.0	7.4	8.9	7.6	6.7	2.4	1.1	4.0	4.5	11
28	2.5	4.8	6.0	7.7	9.0	7.6	6.8	2.2	0.90	4.6	4.2	8.9
29	2.6	5.0	5.9	7.7	8.9	7.5	6.9	2.1	0.83	30	3.9	8.0
30	2.6	4.9	5.7	7.7	---	7.5	6.8	2.0	0.71	8.1	3.7	7.1
31	2.6	---	5.8	7.8	---	7.4	---	1.9	---	4.6	3.4	---
TOTAL	99.0	119.9	172.8	213.3	251.8	318.6	256.0	117.2	42.94	598.79	1430.9	1806.2
MEAN	3.19	4.00	5.57	6.88	8.68	10.3	8.53	3.78	1.43	19.3	46.2	60.2
MAX	17	5.1	6.0	8.0	9.3	62	31	6.7	3.1	300	361	1280
MIN	2.3	2.5	4.9	5.8	7.9	7.4	6.5	1.9	0.71	0.29	3.4	2.0
MED	2.5	4.2	5.5	7.0	8.7	8.4	7.0	3.4	1.4	3.8	7.6	5.0
AC-FT	196	238	343	423	499	632	508	232	85	1190	2840	3580
CFSM	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.02	0.04	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2004, BY WATER YEAR (WY)

(WY)	MEAN	18.0	45.4	39.1	27.4	23.7	13.2	8.27	11.6	136	210	79.0
1978	1087	132	1230	507	217	160	66.5	37.2	167	876	968	1887
1993	2.66	4.00	5.15	5.81	7.18	8.04	3.03	2.42	1.19	0.55	9.97	3.22
2003	2004	2003	1999	1923	1999	1913	1918	1990	1997	1962	2002	

SUMMARY STATISTICS FOR 2003 CALENDAR YEAR FOR 2004 WATER YEAR WATER YEARS 1904 - 2004

ANNUAL TOTAL	3565.31	5427.43										
ANNUAL MEAN	9.77	14.8										
HIGHEST ANNUAL MEAN												
LOWEST ANNUAL MEAN												
HIGHEST DAILY MEAN	202	Aug 27	1280	Sep 20	28800	Sep 27	1926					
LOWEST DAILY MEAN	0.43	Jul 10	0.29	Jul 7	0.05	Jul 14	1994					
ANNUAL SEVEN-DAY MINIMUM	0.54	Jul 5	0.40	Jul 4	0.06	Jul 11	1994					
ANNUAL RUNOFF (AC-FT)	7070		10770		40040							
ANNUAL RUNOFF (CFSM)	0.008		0.012		0.045							
10 PERCENT EXCEEDS	11		9.9		68							
50 PERCENT EXCEEDS	5.6		5.7		13							
90 PERCENT EXCEEDS	1.4		1.5		3.5							

GILA RIVER BASIN

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09471000 SAN PEDRO RIVER AT CHARLESTON, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD:--July 1963 to Sept. 1975, Dec. 1986 to Sept. 1993, Feb. 1996 to current year.**PERIOD OF DAILY RECORD:**--**SPECIFIC CONDUCTANCE:** Oct. 1964 to Sept. 1975, Oct. 1996 to Sept. 1998.**WATER TEMPERATURE:** July 1963 to Sept. 1975, Oct. 1996 to Sept. 1998.**SUSPENDED-SEDIMENT DISCHARGE:** July 1963 to Sept. 1975.**REMARKS:** In water year 2004, nine samples were collected for the National Water-Quality Assessment Program from November through August. In August a sample for a different set of constituents was also collected for the Arizona Department of Environmental Quality. The two sets of constituents are listed separately in the table.WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
(National Water-Quality Assessment Constituents)

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Disolved percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, 25 degC (00095)	Temperatur, wat umf us/cm (00020)	Temperatur, air, deg C (00010)	Temperatur, water, deg C (00010)	Alkalinity, inc titr. CaCO3 (39086)	Bicarbonate, wat flt (00453)	Carbonate, wat flt (00452)	Chloride, incrmt. titr., water, filtrd, mg/L as CaCO3 (00940)
NOV														
04...	1335	2.9	660	7.1	84	8.2	474	19.0	16.5	225	262	6	8.17	
24...	1250	5.2	662	8.0	85	8.2	486	17.0	11.6	231	277	2	8.05	
FEB														
19...	1420	9.0	660	9.0	106	8.6	489	18.5	16.1	212	237	10	9.14	
MAR														
08...	1255	9.4	667	9.9	124	8.5	506	25.5	19.3	A214	A248	A7	9.49	
29...	1150	7.8	666	8.4	103	8.3	504	25.0	18.6	223	259	6	9.03	
APR														
19...	1420	6.6	662	9.3	124	8.5	490	25.0	22.3	216	248	8	8.69	
JUN														
09...	1245	1.3	659	7.6	114	8.4	482	30.0	28.5	204	239	5	7.77	
JUL														
15...	1220	.59	664	7.3	111	8.2	316	31.5	29.8	132	152	4	5.69	
AUG														
19...	1320	201	662	6.8	87	8.1	145	28.0	20.3	58	71	--	1.34	
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WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

(Arizona Department of Environmental Quality Constituents)

Remark codes used in this table:

< -- Less than

E -- Estimated value

Value qualifier codes used in this table:

d -- Diluted sa

n -- Below the LRL and above the LT-MDL